

Application No. 10/828,565
Amendment "A" dated March 1, 2006
Reply to Office Action mailed November 3, 2005

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Withdrawn) A reef artifact for diminishing the shock of a water current or wave, comprising:

a reef-like formation having a varied surface; and

a connector configured to mount the reef-like formation on a structure, wherein the structure is at least partially submerged in water and receives a shock from water moving toward the structure, the reef-like formation being configured to disrupt the flow of the water adjacent thereto such that the reef-like formation absorbs at least a portion of the shock of the water moving toward the structure.

2. (Withdrawn) A reef artifact as in claim 1, wherein the connector is a bracket.

3. (Withdrawn) A reef artifact as in claim 1, wherein the reef-like formation defines at least one aperture where water can flow therethrough.

4. (Withdrawn) A reef artifact as in claim 1, wherein the reef-like formation is further configured to be mounted with a desired amount of space between the reef-like formation and the structure such that water can flow therebetween.

5. (Withdrawn) A reef artifact as in claim 1, wherein the reef-like formation is generally flat.

6. (Withdrawn) A reef artifact as in claim 1, wherein the varied surface simulates the contours of coral.

7. (Withdrawn) A reef artifact as in claim 1, wherein the reef-like formation has reef-organism structures thereon.

8. (Withdrawn) A reef artifact as in claim 1, wherein the reef-like formation comprises a calcium carbonate based concrete.

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9. (Withdrawn) A reef artifact as in claim 1, wherein the reef-like formation comprises a compressed concrete and synthetic fibers.

10. (Withdrawn) A reef artifact assembly comprising a plurality of reef artifacts according to claim 1, the plurality of reef artifacts being mounted to a structure, wherein the structure comprises a wall.

11. (Withdrawn) A reef artifact assembly as in claim 10, wherein each of the reef artifacts are mounted below a water surface.

12. (Withdrawn) A reef artifact designed to simulate a naturally occurring reef, comprising:

a reef-like formation having a varied surface with contours that have the appearance of coral; and

at least one reef-organism structure formed on said reef-like formation.

13. (Withdrawn) A reef artifact as in claim 12, further comprising a plurality of a reef-organism structures.

14. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure has the appearance of reef organism.

15. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure is a simulated reef organism.

16. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure is a naturally-occurring reef organism.

17. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure has the appearance of a fish.

18. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure has the appearance of a starfish.

19. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure has the appearance of a shell.

20. (Withdrawn) A reef artifact as in claim 12, wherein the at least one reef-organism structure has an appearance selected from the group consisting of a fish, a shell, a crab, an octopus, a sea horse, a plant, a starfish, and combinations thereof.

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21. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation is configured to be mounted on a structure.

22. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation is configured to stand alone.

23. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation defines at least one aperture where water can flow therethrough.

24. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation is further configured to be mounted with a desired amount of space between the reef-like formation and the structure such that small marine animals can fit therebetween.

25. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation is generally flat.

26. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation comprises a calcium carbonate based concrete.

27. (Withdrawn) A reef artifact as in claim 12, wherein the reef-like formation comprises a concrete and a synthetic fiber.

28. (Withdrawn) A reef artifact assembly comprising a plurality of reef artifacts according to claim 12, wherein the plurality of reef artifacts are mounted below a water surface.

29. (Withdrawn) A reef artifact assembly comprising a plurality of reef artifacts according to claim 28, wherein the reef artifacts are mounted between about 2 feet and about 10 feet below the water surface.

30. (Currently Amended) A method for making a reef artifact mold comprising:
providing a reef-like formation having a varied surface;
providing at least one reef-organism structure;
adhering the at least one reef-organism structure to the reef-like formation to produce a reef artifact form; and
making a reef artifact mold using said reef artifact form.

31. (Original) A method according to claim 30, wherein the at least one reef-organism structure simulates a naturally occurring reef organism.

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32. (Currently Amended) A method according to claim 30, wherein the at least one reef-organism structure is a molded reef-organism structure that simulates a naturally occurring reef organism.

33. (Original) A method according to claim 30, wherein the at least one reef-organism structure is a naturally occurring reef organism.

34. (Original) A method according to claim 30, wherein providing the reef-like formation comprises selecting or cutting travertine stone.

35. (Original) A method according to claim 30, further comprising adhering a plurality of reef-organism structures to the reef-like formation.

36. (Original) A method according to claim 35, wherein providing the plurality of reef-organism structures comprises:

selecting a plurality of dehydrated reef organisms;

forming a rubber negative mold of each of the plurality of dehydrated reef organisms; and

pouring a wax into each of the rubber negative molds to form the plurality of reef-organism structures.

37. (Original) A method according to claim 36, wherein adhering the reef-organism structures to the reef-like formation comprises melting a surface layer of wax of each of the reef-organism structures and adhering each of the reef-organism structures to the reef-like formation before the melted wax hardens.

38. (Original) A method of making a reef artifact according to claim 30 further comprising, (i) pouring a moldable material into the reef artifact mold and (ii) allowing the moldable material to harden to form a reef article, and removing the reef artifact from the reef artifact mold.

39. (Original) A method of making a reef artifact assembly according to claim 35 further comprising, repeating steps (i) and (ii) to form a plurality of reef artifacts and mounting the plurality of reef artifacts on a structure.

40. (Original) A method according to claim 39, wherein mounting the plurality of reef artifacts on the structure further comprises:

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drilling a plurality of holes in the structure with a desired spacing for mounting the plurality of reef artifacts thereon;

inserting a bolt into the hole and using a marine epoxy to permanently fix the bolt in the hole; and

mounting the reef artifacts on the bolts.

41. (Original) A method according to claim 39, wherein each of the plurality of reef artifacts is mounted between about 2 and about 10 feet below a water surface.

42. (Original) A method according to claim 39, wherein step (i) further comprises partially inserting a mounting bracket into the moldable material.

43. (Original) A method according to claim 42, wherein each of the plurality of reef artifacts is mounted with a desired amount of space between the structure and the reef artifact such that small marine animals can fit therebetween.

44. (Original) A method as in claim 42, wherein the moldable material is concrete.

45. (Original) A method as in claim 44, wherein the concrete comprises calcium carbonate.

46. (New) A method as in claim 30, further comprising pouring a concrete mixture into the mold, forming a reef artifact by allowing the concrete mixture to cure, and removing the mold to yield a reef artifact.

47. (New) A method for manufacturing a reef artifact suitable for use in an aquatic environment, comprising:

providing a reef-like formation having a varied surface;

forming at least one reef-organism structure, wherein forming at least one reef-organism structure comprises:

selecting at least one real or simulated reef organism;

forming a mold of each of the at least one real or simulated reef organism;

and

molding at least one reef-organism structure;

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adhering the at least one reef-organism structure to the reef-like formation to produce a reef artifact form;

making a reef artifact mold using the reef artifact form;

pouring a moldable material into the mold; and

allowing the moldable material to harden.

48. (New) A method as in claim 47, wherein forming the reef organism structures comprises forming a plurality of reef-organism structures from a plurality of negative molds.

49. (New) A method as in claim 47, wherein the steps of pouring concrete and removing the mold is repeated a plurality of times to make a plurality of reef artifacts.

50. (New) A method for manufacturing a reef artifact suitable for use in an aquatic environment, comprising:

providing a reef-like formation having a varied surface;

providing a plurality of molded reef-organism structures that simulate a real reef organism wherein providing a plurality of molded reef-organism structures that simulates a real reef organism comprises:

selecting a plurality of dehydrated reef organisms;

forming a rubber negative mold of each of the plurality of dehydrated reef organisms;

pouring a wax into each of the rubber negative molds to form the plurality of reef-organism structures;

adhering the at least one reef-organism structure to the reef-like formation to produce a reef artifact form;

making a reef artifact mold using the reef artifact form; and

pouring a concrete mixture into the mold and allowing the concrete mixture to harden.